Notice of Allowability	Application No.	Applicant(s)	
	10/691,785	SUGAWARA ET AL.	
	Examiner	Art Unit	
	Mark Ruthkosky	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *5/31/2007*.

2. ☒ The allowed claim(s) is/are *1,3,5,8 and 9*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

MARK RUTHKOSKY
PRIMARY EXAMINER
6.3.2007

DETAILED ACTION

Response to Amendment

The amendment filed on 5/31/2007 cancels claims 10 and 11. The remaining claims in the application have been indicated as allowed in the previous office action.

Claim Rejections - 35 USC § 103

The rejection of claims 10-11 under 35 U.S.C. 103(a) as being unpatentable over Kashiwagi (US 2002/0136942 and 6,800,390) in view of Abe et al. (US 6,815,103) has been rendered moot, as applicant has canceled these claims.

Allowable Subject Matter

Claims 1, 3, 5, 8 and 9 are allowed.

The following is an examiner's statement of reasons for allowance:

The instant claims are to a fuel cell system comprising a fuel cell which generates electric power based on hydrogen and a oxidant gas supplied from the outside; a hydrogen gas supply flow path for supplying hydrogen to the fuel cell; a hydrogen off-gas circulating passage for returning the hydrogen off gas from said fuel cell to said hydrogen gas supply flow path; a hydrogen pump for boosting the hydrogen off gas mounted in said hydrogen off gas passage; a hydrogen off gas bypass passage for returning the hydrogen off gas in the hydrogen off gas passage to said hydrogen gas supply flow path; an ejector for sending the hydrogen off gas to the hydrogen gas supply flow path. A back flow check device is provided at said hydrogen off-gas

bypass passage for checking back flow of the hydrogen off-gas, and wherein the back flow check device is an isolation valve, which is controlled in response to the driving state of said hydrogen pump OR controlled to be in a closed state when an outside temperature is above a predetermined temperature and which is controlled to be in an open state when the outside temperature is below a predetermine temperature. Control of the valve of claim 1 requires that the valve and the state of the hydrogen pump are in communication as described in the specification. In claim 8, control of the valve requires that the valve and the measured outside temperature are in communication as described in the specification. The use of the valve requires that these elements are structurally in communication. The prior art does not teach said fuel cell, as claimed, that includes an isolation valve that is controlled in response to the driving state of said hydrogen pump OR controlled to be in a closed state when an outside temperature is above a predetermined temperature and which is controlled to be in an open state when the outside temperature is below a predetermine temperature.

The most pertinent prior art has been presented. For example, Kashiwagi (US 2002/0136942 and 6,800,390) teach a fuel cell system comprising a fuel cell which generates electric power based on hydrogen and a oxidant gas supplied from the outside; a hydrogen gas supply flow path for supplying hydrogen to the fuel cell; a hydrogen off-gas circulating passage for returning the hydrogen off gas from said fuel cell to said hydrogen gas supply flow path; a hydrogen pump for boosting the hydrogen off gas mounted in said hydrogen off gas passage; a hydrogen off gas bypass passage for returning the hydrogen off gas in the hydrogen off gas passage to said hydrogen gas supply flow path; an ejector for sending the hydrogen off gas to the hydrogen gas supply flow path (see figure 1, claims 1-5 and paragraphs 17-28.) The passage

includes a pump that prevents back pass of the flow of hydrogen. The reference does not teach said fuel cell, as claimed, that includes an isolation valve that is controlled in response to the driving state of said hydrogen pump OR controlled to be in a closed state when an outside temperature is above a predetermined temperature and which is controlled to be in an open state when the outside temperature is below a predetermine temperature. For these reasons, the claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky
Primary Patent Examiner
Art Unit 1745

6.3.2007